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ABSTRACT

This paper examines teacher assessment in light of contemporary cognitive science and anthropological research on teaching. Attention is given to why some teacher tests are inappropriate for assessing competence and the need for development of an effective, comprehensive assessment system that acknowledges the inadequacy of current test structures. The potential of using the case method for overcoming these difficulties is rooted in the premises drawn from cognitive science and anthropology. A case method assessment system is proposed, in which teachers respond to cases that reflect the complexity of teaching. The potential of three frameworks--intended instruction, problem situations, and dilemmas--are examined as possible vehicles for assessing the knowledge teachers employ to simplify their work and accomplish their intentions over time. Ways of judging teacher responses to these cases are also discussed. (CB)

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Henrietta L. Barnes

NCRTE

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Henrietta L. Barnes

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Director: Mary Kennedy

Associate Directors: Sharon Feiman-Nemser
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Editor: Sandra Gross

Abstract

This paper examines teacher assessment in light of contemporary cognitive science and anthropological research on teaching. Findings from research suggest that teacher practices are influenced by the way teachers organize their knowledge and the meaning they give to particular contexts and teaching experiences. Testing practices often require teachers to demonstrate knowledge out of context and unrelated to practical decisions. The author proposes an alternative approach to assessment which asks teachers to respond to cases which reflect the complexity of teaching. This approach enables assessors to examine teachers' interpretations of cases, their strategies for responding to the cases, and their rationales. The author proposes the use of two kinds of cases: those which assess teachers' general strategies and intentions and those which assess teachers' responses to unanticipated problems or dilemmas. Ways of judging teacher responses to these cases are also discussed.

INTENTIONS, PROBLEMS AND DILEMMAS: ASSESSING TEACHER KNOWLEDGE THROUGH A CASE METHOD SYSTEM[1]

Henrietta L. Barnes[2]

This paper grew out of a concern for the discrepancies that currently exist between what we accept as evidence of teacher knowledge on teacher tests and what we are learning from cognitive science and ethnographic studies of classrooms about teacher thinking. We are recognizing, as never before, that teaching is extremely complicated. It is not linear. Teachers draw from many sources of knowledge they have acquired in many ways throughout their lives to make sense of classroom life, to take deliberate action, to create intentions, and to respond to problems and dilemmas.

We know that both students and teachers mediate the understandings (both students' and teachers') that emerge from mutual efforts to learn in classrooms. We know that teachers have intentions for learners, both individually and collectively, that go beyond the acquisition of information about, or even true understanding, of subject matter. Although subject matter is important to teachers, so is the personal development and social responsibility of their charges. We know that teachers must be concerned with questions of morality, ethics, and social justice and often attempt to foster an understanding of these matters in their students. We know also that teachers may give up their intentions, or modify them drastically, as they are confronted with problems and dilemmas that may emerge from the competing and often conflicting demands of the classroom.

Knowing how to teach a topic effectively does not ensure that one has the capacity to do so while pursuing multiple and often competing goals and

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[1]This paper is based on a presentation given at the annual meeting of the American Educational Research Association, Washington, D.C., April 1987.

[2]Henrietta Barnes is Chairperson of the Department of Teacher Education at Michigan State University.

responding to the daily events of classroom life. I am reminded of an analogy drawn by Duffy (1982) when he returned to classroom teaching during a sabbatical from the university. He likened teaching in an elementary classroom to "fighting alligators." Building on the then-popular poster that said, "When you're up to your elbows in alligators, it's hard to remember that your original objective was to clear the swamp!" he noted the difficulty of enacting "best practice" when confronted with the spontaneity of classroom life.

The mark of truly competent teachers is their ability to respond to problems in ways that are consistent with original intentions in the face of the alligators. Rather than responding in fragmented ways and being diverted from their original intentions when they confront instructional problems, such teachers use classroom events as occasions for reconstructing their goals in order to achieve multiple intentions for learners. Teachers have a variety of strategies for achieving their intentions for students--over time. That is, they understand that individual lessons and units of instruction provide important opportunities for students to learn. They also understand, however, that some learning can only occur as the result of multiple episodes over time.

It seems to me that we cannot endorse a teacher assessment system that does not reveal the knowledge teachers have available for "fighting alligators" and promoting all of the goals of schooling under conditions that are known to exist in classrooms. Demonstrated knowledge of how to teach subject matter is critical, of course, but it is insufficient for assuring that teachers have all of the professional knowledge they need. The type of assessment system we need is one that will allow teachers to tell us what they know so that its adequacy can be examined. Current tests, I believe, do

not provide this opportunity both because of their content and the way they are structured.

This paper discusses why such tests are inappropriate and draws from the fields of cognitive science and anthropology to support the development of an assessment system that uses a new form of the case method. The paper has two main sections. In the first, a rationale is developed for building a comprehensive assessment system that acknowledges the inadequacy of current test structures. The potential of the case method for overcoming these difficulties is rooted in premises drawn from cognitive science and anthropology. In the second, a case method assessment system is proposed. The potential of three frameworks--intended instruction, problem situations, and dilemmas--is discussed. These frameworks are examined as possible vehicles for assessing the knowledge teachers employ to simplify their work and accomplish their intentions over time.

Importance of Test Structure

Teaching is complicated. Developing appropriate means for assessing the knowledge teachers use in that activity will consequently also be complicated. Yet, tests currently in use in the more than 44 states that now require some form of competency testing (American Association of Colleges for Teacher Education, 1986) do not attempt to assess the complex array of interactive knowledge teachers must draw upon to respond to the practical demands of their work. Such tests focus primarily on assessing the information and knowledge teachers can recognize or reproduce. Whether intended to assess the teacher's understanding of subject matter or pedagogy or their basic literacy skills, these tests generally are information-based and focused on breadth rather than depth. Such tests seriously limit the external judgments that can be made about the understandings teachers have

constructed based on their knowledge or the capacity of the teacher to use that knowledge appropriately in teaching. Further, accepting results of such tests as indicators of professional knowledge perpetrates a simplistic view of teaching that does not acknowledge the deep professional knowledge teaching requires.

Two problems are inherent in the current approach to teacher testing. First, testing teachers to determine whether they have acquired certain information suggests a static conception of teacher knowledge. The possession of a decontextualized aggregate of information about learning, about teaching strategies, and about subject matter is assumed to be sufficient evidence that such knowledge is available to teachers when they teach. The second problem with current tests, embedded in this assumption, relates to the structure of the test itself. The premise seems to be that the ability to recall or recognize discrete information on a paper/pencil test using a multiple-choice format is sufficient evidence of knowing. This premise has been challenged by Condon and Kyle (1985) who studied tests used to assess teacher knowledge in the area of reading:

> First, the structure of the test itself appears to affect the type and depth of knowledge about teaching of reading that can be demonstrated. . . . The open-ended questions asked on the 1923 test require the prospective teachers to develop, elaborate and provide support for their personal visions of how such instruction should occur. The NTE [1983 National Teachers Examination] uses item stems for which the correct answer is supplied. . . . The task . . . becomes one of choosing rather than developing an answer. (p. 18)

This concern about the test structure is also supported by recent information-processing research which, in contradiction to earlier work, has now demonstrated the relationship of the content of the task to whether rational or irrational responses are observed in experimental settings (Wason, 1983). On the basis of these findings, Wason says, "The critics, who have objected so strongly to the early research, have in a way been vindicated" (p. 71).

In explaining his conclusion, he says, "The results are consistent with the hypothesis that the stimulus material evokes schemata, or cognitive structures, represented in long-term memory. . . . The idea of schemata implies an intrinsic relation between reasoning and experience (p. 68). . . . Understanding is related to content" (p. 70). Similarly, Anderson (1977) notes that the identification of the elements of knowledge and interrelationships between and among elements "cannot profitably be addressed as separate issues" (pp. 416-418). Commenting on the limitations of generalizing from "canned tasks" to cognitive theory, Sternberg (1977) says, "It is not immediately obvious that performance in real-world settings can be reduced to components of task performance on very simple tasks" (p. 10). If the way in which tasks are presented can seriously influence the nature of responses in simple, experimental tasks, it seems likely that multidimensional tasks (such as teaching) may be even more subject to variations in responses to stimulus materials.

In teaching we may have a situation in which the whole is not equal to but greater than the sum of its parts. Consequently, the validity of a teacher knowledge test must rest not on whether it includes subskills that are sometimes needed in teaching but on the test's ability to replicate the occasions when problem solving is used in teaching. As Wason (1983) has affirmed in his research on selection tasks, "What matters is realism however it be achieved" (p. 71).

Medley (1983) points out that the purposes of any test will dictate its form and content. Thus, we might ask whether the test is primarily designed to discover whether teachers can recognize or identify certain skills and specific knowledge or whether it is primarily interested in uncovering the alternative ways teachers conceive of their craft, interpret their responsibilities, strive to accomplish their goals, and justify their decisions and

actions. Posner (1978) reflects a similar concern in assessing students' conceptual networks (schemata):

> If we are more interested in how students use what they know than in what concepts they have learned (i.e., the control processes rather than the data base), we might attempt to collect information directly regarding the way they go about solving problems. (p. 333)

He suggests that we study not the process skills that contribute to problem-solving ability but how information is applied in solving "real-life" problems. His suggestion implies that we might profitably look not only at the various pieces of information and knowledge teachers have acquired but also at how individuals use this stored knowledge to teach.

The potential benefits of an assessment system based on these premises are apparent for all teachers. In particular, however, such tests may improve the performance of minorities on competency tests. Within the "real world" of teaching, many minority teachers demonstrate through their excellent teaching and accomplishments with children that they have rich schemata for professional decision making and action. Yet, the record of minority candidates on the NTE is disheartening. Many people have criticized the disproportionate results for minorities on these tests and have cited cultural bias and inadequate initial preparation as factors (Ducharme, in press; Garcia, 1986). A competing hypothesis is that current tests do not allow teachers to demonstrate what they know. Inability to respond to decontextualized items on a multiple-choice test does not necessarily mean that teachers have inadequate knowledge about the domain being tested. It may mean that the structure of the test is inadequate.

A Direction to Pursue

As researchers have become more aware of the dynamic character of classroom experience and the large number of decisions teachers must make

(Jackson, 1968), some have wondered how teachers manage their difficult responsibilities (Schwab, 1959; Lanier, 1984; Shulman, 1983). Shulman points out, for example,

> Teaching is impossible. If we simply add together all that is expected of a typical teacher and take note of the circumstances under which those activities are to be carried out, the sum makes greater demands than any individual can possibly fulfill. Yet, teachers teach. Moreover, despite oft-cited failures to achieve results with many types of pupils, teachers frequently elicit praise and recognition from all about them. (p. 497)

Noting that the teacher is often forced into a position of trading off among competing demands, Shulman and others (Lanier, 1984, for example) suggest that teachers respond to the multiplicity of expectations they face by making conscious and rational choices. The concept of the teacher as a rational decision-maker is compelling and is implicit in much of the research on teaching in recent years (Lanier, 1984; Shavelson and Stern, 1981; Clark and Peterson, 1986). As this view has become more prominent, however, cognitive psychologists have reminded us of the limitations of human rationality (Miller, 1956; Shulman and Carey, 1984).

Two of the concepts discussed by Shulman and Carey are central to our concern for testing teacher knowledge: the concepts of "bounded rationality" (Simon, 1957) and "webs of significance" (Geertz, 1973). According to Simon, "the capacity of the human mind for formulating and solving complex problems is small compared with the size of the problems . . . in the real world" (p. 198). Thus, he continues, the person must

> construct a simplified model of the real situation in order to deal with it. He behaves rationally with respect to this model. . . . To predict his behavior, we must understand the way in which this simplified model is constructed. (p. 199)

Similarly, Geertz (1973) highlights the contribution of culture to the views of reality humans construct. The "webs of significance" are created by individuals through cultural lenses. Situations and problems are defined and

acted upon in similar ways by members of a culture because of their shared understanding of the meanings of those events within a framework of jointly constructed beliefs. According to Shulman and Carey (1984),

> to understand the boundedly rational human learner, therefore, is to understand not only how individuals simplify the world around them to make individual cognition possible, but also how they participate in jointly social and cultural systems of meaning that transcend individuals. (p. 503)

The importance of these ideas for assessment of teacher knowledge lies in the direction they suggest for what we should be testing. If we agree that the world is overwhelmingly complex and that humans must simplify it in order to respond rationally, we must consider seriously the nature of the "simplified models" teachers construct. If construction of these models are guided by the "prior knowledge, and information coded into schemata, scripts, frames, and the like" (Shulman and Carey, 1984, p. 508) suggested by cognitive psychologists, then, analyzing these models might reveal the knowledge teachers have available for interpreting and explaining instructional and classroom problems. Thus, the teacher's intentions, conceptions of the learners, the classroom, the content, the task, and the instructional alternatives would emerge as teachers respond to the particulars of a given case.

If we further acknowledge that individuals within a culture (e.g., the culture of teaching, see Feiman-Nemser and Floden, 1986) define situations in remarkably similar ways, we must take into account the influence of this culture on the "webs of significance" teachers construct and use in subsequent simplifications. We need to explore what is involved in cultural membership cognitively and behaviorally. We might question the cultural influence on how that knowledge is organized and stored so it can be drawn upon appropriately. If we further assume that cultural membership rests on having understandings that others in that culture hold as appropriate for its members (Goodenough, 1976), then we must try to find out how successfully

enculturated the person is. A competency test for teachers, therefore, could be viewed as a means of providing evidence that a person has acquired the understandings that qualify the person for membership in a culture of teaching.

This perspective highlights the importance of capturing the person's frame of reference and understanding the contextual cues that signal the need for a decision. Nisbett and Ross (1980) suggest that the ability to comprehend dynamic social situations may depend on the richness of the knowledge individuals possess about people, events, objects, and relationships. Their distinction between "propositions," beliefs or theories about characteristics of objects, and other schematic structures often referred to as ". . . frames . . . scripts . . . nuclear scenes, and prototypes . . . in addition to the earlier and more general term, schemata" (p. 28) may be useful for this discussion. Posner (1978) indicates that

> schema theory implies that portions of LTM [long term memory] function, not just as a store of information, but also (a) as a format into which new information must fit if it is to be comprehended, (b) as a plan for directing one's attention and for conducting purposeful searches of one's environment, and (c) as a resource for filling in the gaps. (p. 314)

Thinking of teacher knowledge in such terms not only recognizes the interactive nature of teacher knowledge but acknowledges as well the advantages and disadvantages of storing one's knowledge in systems that make them more accessible for practice. For example, Sternberg and Caruso (1985) view practical knowledge as being stored in specific systems, or condition-action systems. According to this theory, if certain conditions are present, certain actions are performed. Using a computer-like analogy frequently used by other cognitive psychologists (Simon, 1979; Schank and Abelson, 1977; Posner, 1978), they suggest that one decides what practical knowledge to use at a given time by scanning one's repertoire of contextually embedded knowledge to

find a pertinent episode which then triggers the corresponding action. This theoretical perspective appears to account quite well for one form of simplification that teachers use--the more or less automatic response to certain conditions. For example, Smith (1980) points out that when teachers make decisions for situations that keep recurring, actions soon become habitual on the basis of past experience.

Schank and Abelson (1977) hold that habituated patterns of action stem from scripts. Episodes that are contextually grouped in memory provide the scripts that condition the response. According to this view, rationality and knowledge underlie different responses to environmental situations. One response is routinized, i.e., developed and learned from prior experience in similar contexts. The other is a nonroutine response, i.e., a conscious consideration of the problem based on the participant's previous knowledge and a decision to respond in a particular way.

Clearly, teachers must use both kinds of responses and, depending on their justifications, such responses can be either professionally justified or professionally unsound. As Lightfoot (1983) reminds us,

> The teacher may resort to routine to minimize the onslaught of conflicting demands on her time and patience. Though the routine may be necessary for the survival of the teacher, it may be to the detriment of the children. (p. 251)

On the other hand, Dewey (1916) argues that habits can be seen as "a form of executive skill, of efficiency in doing" (p. 54). He says habits can also be conceived of as the

> formation of intellectual and emotional disposition as well as an increase in ease, economy, and efficiency of action. Any habit marks an inclination . . . an active preference and choice . . . a definite way of understanding the situation. . . . Habits reduce themselves to routine ways of acting, or degenerate into ways of action to which we are enslaved just to the degree that intelligence is disconnected from them. . . . "bad" habits are habits so severed from reason that they are opposed to the conclusions of conscious deliberation and decision. (pp. 57-58)

The potential for habits and routines to be unsound professionally is highlighted by Nisbett and Ross (1980) who point out the consequences of allowing unexamined schemata in the form of "scripts" or "personae" to be overused and misapplied in social situations. Like Sternberg and Caruso's condition-action systems, scripts are presumed to be a type of schema in which earlier social situations influence events that follow; i.e., people learn what acceptable behavior is in given contexts and tend to behave according to those expectations (Schank and Abelson, 1977). Similarly, people may respond to others according to personae schemata that attribute certain characteristics and typical behaviors to individuals, often in the form of stereotypes. Nisbett and Ross (1980) argue convincingly that the vividness, concreteness, and availability of these cognitive structures may unduly bias one's perceptions and subsequent judgments in similar situations. Coupled with the human tendency to retain one's initial judgments, schemata may be misapplied as a basis for judgment. In fact, the negative outcomes associated with certain teacher expectations might be explained in terms of this theoretical perspective.

In contrast, the unusual accomplishments of excellent teachers might also be explained in terms of schema theory. If the schemata of teachers include rich sources of knowledge drawn from a number of subject matters and thoughtful reflections on practice in light of this knowledge, then the practical knowledge that emerges may be said to be grounded. Because teachers must routinize and simplify their work, the schemata that underlie both their routine, habituated behaviors and the judgments they form in their nonroutine decision making must be evaluated.

Attempts to assess teacher knowledge might use the case method to address ways to access the schemata teachers use when confronted with representations of various aspects of teaching practice. For example, rather than testing

acquisition of a multitude of specific facts, concepts, and principles from a number of accepted domains of teacher knowledge, we might examine the knowledge teachers use when confronted with case materials that approximate the real conditions of teaching. Those realities, of course, include teaching specific subject matter to particular students within a given context. They also include responding to problems and dilemmas that arise from simultaneously pursuing personal and social goals for students.

By looking at the strategies teachers employ during specific, well documented, and richly described instances of practice, we may develop a valid indicator of the teacher's reasoning. In this way we might be able to ascertain the richness, as well as the adequacy, of the knowledge systems (schemata) teachers have available to them for specifying their intentions, for seeing and interpreting classroom events, for generating alternative ways of responding over different time frames, and for reflecting and thus learning from their continuing professional experiences.

An assessment system that allows teachers to describe ways they would simplify the complexity of the teaching situation, in terms that explicate the meanings that events have for them, would permit both minority and non-minority teachers to display the knowledge schemata they possess. Examination of teacher responses to a series of cases that take into account their intentions for a particular group of learners, as well as their ability to accomplish those intentions or appropriately revised goals that evolve over time, would provide a valid basis for assessing professional knowledge.

Developing a New Case Method to Assess Teacher Knowledge

The case method proposed here is somewhat different from that used instructionally within a variety of professional schools. It is also distinct from the case method typically used in ethnographic research. Instead, this

proposal seeks to build on the prior instructional and research use of cases to create a case method that responds to the particular requirements of teacher evaluation built on a view of teaching expertise that Kennedy (1987) calls "deliberate action."

If teacher assessment is to be valid, it must have certain characteristics. First, it must approximate the realities of classroom teaching. This condition stems from a recognition that knowledge is stored within "webs of significance" that are contextually grouped. Schemata about teaching are more likely to be revealed and thus become available for examination if the stimulus used closely parallels those situations in which the schemata were learned. Providing teachers with stimuli that are similar to those occasions to which they must respond in their daily work also allows teachers to demonstrate their use of multiple schemata which are contextually grouped in memory. The question of the teacher's ability to use knowledge in the pursuit of their intentions could thus be assessed directly rather than inferred as is necessary with current knowledge tests.

Second, the assessment system must be manageable. While the instruments and processes used to test teachers must capture some of the complexity of teaching, the system must not be so complicated that the respondent is overwhelmed. It must, therefore, be at once complicated and simple.

Third, the assessment system must allow teachers to create their own meanings from the information provided. While the school and classroom learning environment, the curricula, and the learners should be richly described, the detail must not predispose respondents to define situations and problems in predetermined ways. The assessment system should provide descriptions that represent a variety of problem occasions, and the descriptions must allow teachers to decide for themselves what is and is not a problem for them. What some would perceive to be problems, others would not. Thus, the

assessment system must allow teachers to bring their own meaningful interpretations to the assessment.

Depending on their intentions, their understanding of the subject matter, the learners, and the cultural context of the learning situation, teachers may respond differently. This condition is tied to the condition that the testing situation should approximate reality. Real cases do not present themselves as distinct examples of problems or general principles. Kennedy (1987) says of this phenomenon, "Relevant identifying features are usually embedded in a rich complex of details. Thus, expertise is not merely the knowledge that general principles exist; it is the ability to recognize the cases to which they apply" (p. 15). Therefore, the assessment system must allow teachers to bring their own meaningful interpretations to the assessment and determine when a problem occasion exists.

Finally, the test structure must be consistent with the view of expertise that is endorsed as professional knowledge. The assessment system I am proposing sees professional expertise as deliberate action. A test based on this view of expertise requires the teacher to make sense of the situation in light of a frame of reference that allows him or her to see the situation either as an example of a class of events with which he or she is familiar or as an instance of a new class of events that requires definition. It is hoped that the respondent would imagine alternative ways to respond to the problem as he or she defines it and would consider different sorts of solutions. The respondent then must envision and judge likely consequences of alternative actions against two criteria--intended effects and unintended effects--and possibly undesirable outcomes related to initial intentions. If consequences are inconsistent with original intentions, the respondent may review the problem definition, reconsider theory implicit in it, analyze

reasons for the undesirable outcomes, redefine the problem, and formulate other solutions.

The competence demonstrated through such an assessment would be judged on the respondent's ability to define problems consistent with the evidence, to explicate a frame of reference supporting a given interpretation, to generate alternative solutions, and to engage in critical reflection. Professional knowledge would be explicated and important to judgments of adequacy. Knowledge of process would also be important and apparent in responses. Indications of misapplication of inferential heuristics would be obvious if justifications for action were required. Simple cases are inadequate for this purpose.

While many of the cases employed for instructional purposes in professional education have some potential for validly assessing teacher knowledge (Merry, 1967; Sperle, 1933; Ladd, n.d.; Megarry, 1980; Perry and Perry, 1969; Tansey, 1970; Pigors and Pigors, 1961; and Copeland, 1982), none of the practices reported in the literature incorporate all of the characteristics needed. It is feasible, however, to combine some aspects of different strategies into a comprehensive system that is valid, manageable, and capable of eliciting individual frames of reference, intentions, and schemata for teaching.

Proposed Development

Building on the ideas presented thus far, it may be useful to conceive of the assessment system as a series of cases. The development of these cases in two phases would allow factors that operate in any instructional situation to be portrayed graphically. See Figure 1 and Figure 2 for illustration of characteristics of Phase I and Phase II cases. A number of instructional elements are given in any teaching situation: the environment, the range of individual characteristics of a diverse group of pupils; a curriculum that is

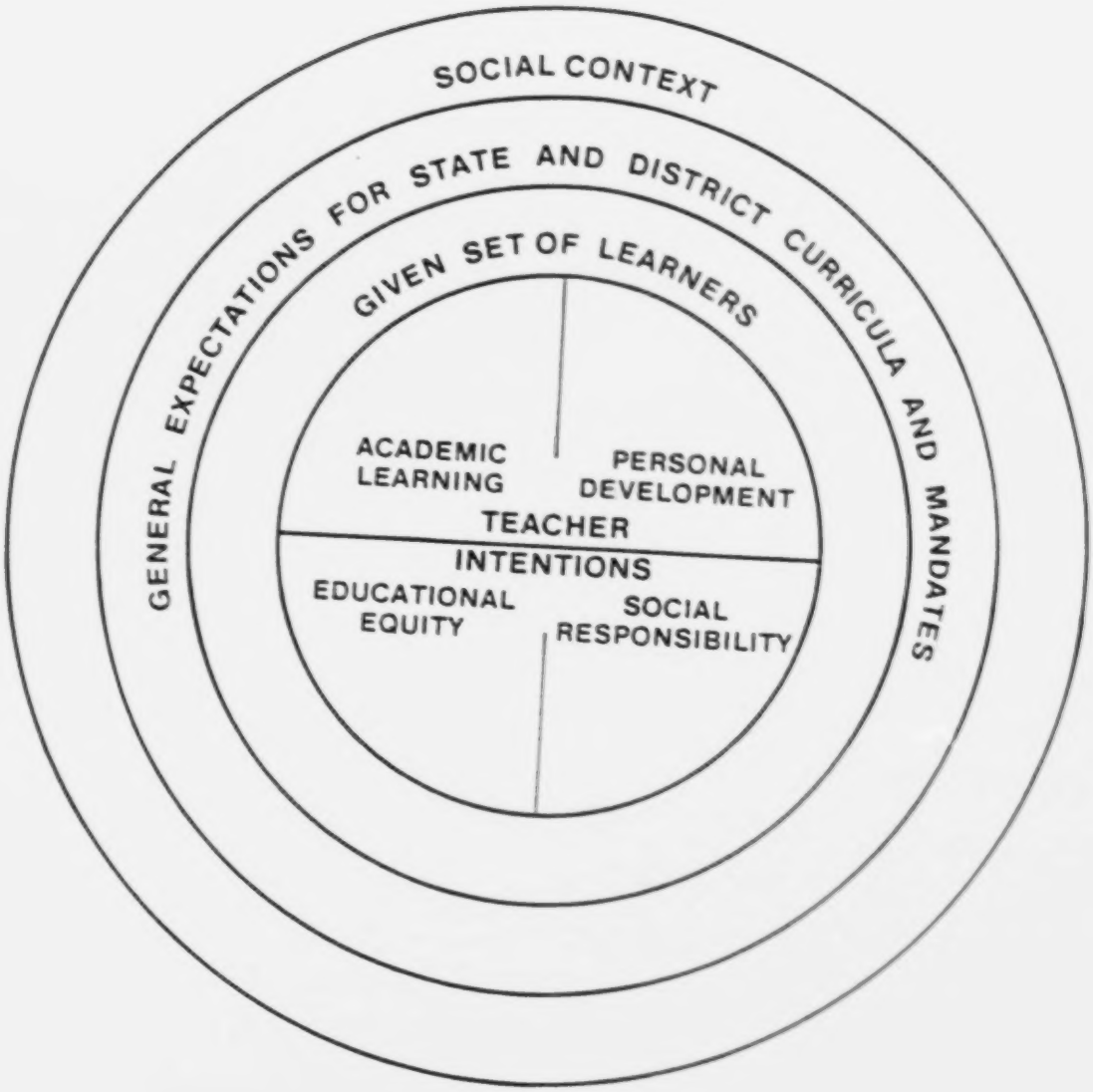

Figure 1. Characteristics of Phase I cases.

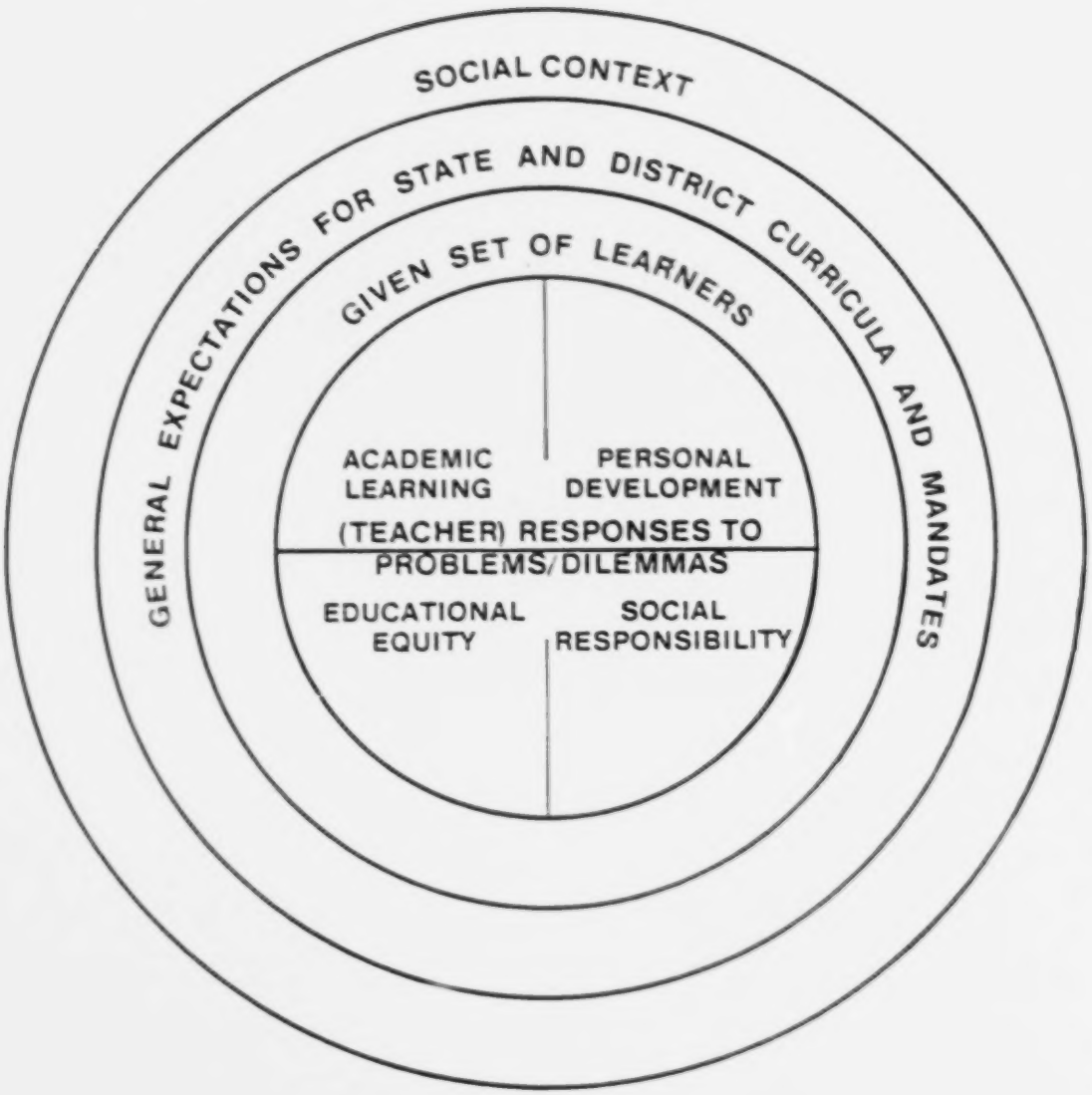

Figure 2. Characteristics of Phase II and Phase III cases.

mandated, prescribed, or expected by the community and school officials; and the teacher's knowledge of the subject matter and pedagogy. Taking these factors into account, the teacher determines the particular content and strategies he or she will use across the school year to accomplish the goals and student objectives he or she deems most critical and/or appropriate in a particular teaching situation. Providing an opportunity for the teacher to state his/her intentions within the context of these givens would be the focus of Phase I cases.

In the daily pursuit of his/her intentions, the teacher may encounter a variety of problems stemming from interactions among the pupils, the teacher, the contextual variables, and the subject matter. In addition, the teacher confronts a number of moral, ethical, and practical dilemmas that may originate in conflict between and among the multiple and competing goals being pursued over the course of the year. Phase II cases would provide opportunities for the teacher to respond to these situations within the same context that guided development of his or her original intentions for a given group of learners. The assessment system would be presented in two phases using three types of cases.

Phase I

The cumulative assessment process would begin in Phase I as actual teaching does--with a class of students to be taught. An in-basket type strategy (Megarry, 1980) might provide an appropriate vehicle for this Phase I the assessment. The descriptions of the learners, the context, including distinct expectations for the curriculum to be taught and pupil achievement related to it, could approximate the situation confronted by both beginning and experienced teachers when they are assigned to a new teaching situation. The description could be varied to reflect the intimate knowledge of students

and the context that teachers acquire as they teach a classroom of diverse students over time, thus allowing teachers to demonstrate how such information alters their interpretations and actions.

Teacher responses to cases would necessarily be descriptive and would provide details about the learning environment teachers would try to create and why they would establish the norms for classroom behaviors they described. For example, teachers would tell how they would teach the topic assigned, i.e., teachers would describe their assessment of the learners' prior understandings of the content (or questions they would want to explore for further detail). Teachers would identify the special needs they recognize among their pupils and provide a rationale justifying the significance of these needs for instruction. They would analyze instructional materials provided as part of the scenario and would specify how they would modify or supplement these materials to achieve their goals. Teachers would describe a range of alternative strategies and activities they would use to facilitate student understanding and describe how they would evaluate their own instruction, as well as student learning. Respondents would be encouraged to describe the routines they would establish and to provide rationales for positions taken. The goal of this exercise would be to capture on paper the multiple intentions the teacher might have for a group of learners and their capacity to accomplish these intentions with students.

Phase II

Phase II of the proposed assessment system would consist of a set of descriptive cases based on the same classroom described in the initial scenario. These cases would systematically present problems typically encountered in teaching the curriculum specified earlier. These problems could be discrete in that each would be a representative case, but the problems would

have an overlapping quality that would illustrate the interactive nature of teaching. The exact number of cases would be determined as a part of the developmental process; however, the sample of cases should be sufficient to capture the teacher's ability to analyze each and to demonstrate his/her conceptual frameworks for explaining them, prioritizing them, and responding to them as a set.

This phase of the assessment process would be designed around a conception of the classroom that is continuous and representative of different time frames. For example, one set of problems might be constructed for the beginning of the year, another for midyear, and a third for the final quarter of the year. Within each time frame, a representative sample of interactive problems could be presented. Or, developments in relation to a given problem might be described at different points in time.

In response to these sets of cases, participants would be asked to assess the situation using an open-ended response format that elicits the ways teachers simplify the case in order to respond to it and justify their judgments and actions. Thus, suppose the teacher is given three to four different cases that are assumed to be occurring simultaneously within the classroom the teacher has constructed in Phase I. Each case would be well documented and richly described, and each would present a representative problem. The teacher would be asked to examine each case individually, but to respond to the set of cases as a whole.

Within the set of cases, the wide range of activities and events that might be encountered within the classroom would be represented. Not all of the events would necessarily warrant a teacher response, however. Whereas several alternative responses would be entirely acceptable, others might not be professionally justifiable. Participants would be asked to describe what they saw as most salient among the set of cases, how they interpreted and

explained the events they identified, what alternative decisions they saw as possible, on what basis they would prioritize their decisions and what actions they would take. In other words, they would be asked to analyze and "boil down" the situation so they could respond, to simplify the complexity so that the nature of the problems they identified could be understood. Finally, teachers would be asked to justify their decisions and reflect on them in terms of potential short- and long-term consequences of their original instructional intentions.

A third set of cases would be designed to represent the sort of dilemmas teachers typically confront. These might be drawn from the ethical, moral and practical situations teachers experience in their professional work. An example of the sort of situation presented here is provided by Lampert who describes a conflict between academic goals and equity issues inherent in classroom management decisions (Lampert, 1985). Cases for this category might or might not overlap with each other. However, consistent with the classic definition of dilemma, they would represent situations for which only undesirable alternative outcomes appear likely.

Judging Cases

The use of the case method for teacher assessment is not without problems. Primary among these is the difficulty of judging and scoring the open-ended responses to such an examination and determining the criteria against which judgments are made. The model proposed has emphasized the importance of developing a system realistic enough to elicit the schemata that are likely to emerge in teaching. The adequacy of the schemata that are revealed can be judged according to several criteria: how aware the person is of factors that are operating in the situation, what evidence is garnered to support interpretations of the situation, how congruent with fundamental

values and theories of practice are proposed alternatives for action, and how potential consequences are weighed in light of intentions and continued learning. Other criteria could relate to the knowledge demonstrated in the form of formal theories and principles or practical maxims and rules of thumb, or to methods of analysis used, or to the coherence of a proposed solution to the problem defined.

If expertise is seen as deliberate action, problems are defined by practitioners "in relationship to goals and both goals and problems are redefined through action" (Kennedy, 1987, p. 28). Criteria for judging responses must include evidence of the ability to reflect and critically examine one's intentions, actions, and the consequences of those actions in relation to professionally acceptable standards.

Where We Are Now

Some colleagues and I are in the process of piloting the case method I have outlined. We have developed a protocol for Phase I that we expect to pilot with both experienced and novice teachers. We developed the protocol from interviews with experienced teachers using the McBer Behavioral Event Interviewing Technique (McBer and Company, 1977).

The description provided in the protocol can best be described as a scenario--an uninterpreted, yet to be analyzed, description of the community, school and classroom environments, the students, the group as well as individuals, and the curriculum, including texts and teaching materials.

We anticipate using the scenarios in at least three ways:

1. We expect to ask pilot subjects to provide written descriptions of what they would try to do, how they would go about it, and why. We will then probe for clarifications, elaborations, and further justifications in interviews immediately following their writing.

2. We also expect to provide responses from experienced teachers and other experts and will ask pilot subjects to critique these

responses and provide justifications for their critique saying where and in what ways they might respond differently.

3. Pilot data will be used to revise the initial protocol before we go on to develop Phase II and Phase III sets of problems and dilemma cases. A similar process will be used to revise and refine Phase II and III cases.

In these ways we expect to test the feasibility of the proposed system for eliciting teacher professional knowledge.

Conclusion

The approach outlined in this paper provides an alternative to be explored. Before such an assessment could be used to test teacher competence, however, serious questions must be resolved. As a profession, we need to explore alternative views of expertise and implications for professional knowledge. Tests should be developed that explicate the concept of professional knowledge being fostered. Tests should be structured in ways that are consistent with the view of knowledge supported. The relationship of the concept of professional knowledge to effectiveness in practice must also be established before a given test is adopted. The temptation to build inadequate models of teacher assessment based on simplified views of professional knowledge must be avoided. Consequently, we must invest time and creative energy to develop and evaluate systematically different assessment models that are both valid and feasible. Without systematic and serious inquiry into these questions, the goal of assessing the professional knowledge of teachers will remain illusory.

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